Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	90.987	100.415	89.157	-	89.157	96.658	115.398	108.404	110.392	Continuing	Continuing
0601: *Acft Handling & Service Equip*	1.010	1.817	3.221	-	3.221	3.180	3.234	3.249	3.312	Continuing	Continuing
0852: *Consolidated Auto Support System*	31.773	28.493	8.325	-	8.325	6.510	6.641	6.748	6.867	Continuing	Continuing
1041: *Acft Equip Repl/Maint Prog*	4.172	3.020	3.238	-	3.238	3.281	3.351	3.402	3.467	Continuing	Continuing
1355: *Propulsion and Power Component Improvement Program*	50.161	62.379	61.296	-	61.296	70.809	91.074	95.005	96.746	Continuing	Continuing
2269: *EAF Matting*	-	4.705	13.077	-	13.077	12.878	11.098	-	-	0.000	41.758
3189: *Digital I-TER*	-	0.001	-	-	-	-	-	-	-	0.000	0.001
3190: *Multi-Purpose Bomb Racks*	3.871	-	-	-	-	-	-	-	-	0.000	3.871

Note

The Navy canceled the Multi-Purpose Bomb Rack (MPBR) program in April 2011. Budget exhibits reflect cancellation.

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for in Program Element 0205633N project 0601.

A. Mission Description and Budget Item Justification

Project 0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft. Project 0852 - Consolidated Automated Support System is a standardized Automated Test Equipment with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles. Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost. Project 1355 - Aircraft Engine Component Improvement Program develops reliability and maintainability and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems, fuels, and lubricants. Project 2269 - The EAF program designs, develops, tests and fields components of a heat resistant lightweight airfield surfacing system and resistant that will support the deployment of the Joint Strike Fighter in austere environments worldwide and a sustainment lighting system to replace existing obsolete legacy EAF lighting system. Project 3189 - is the Digital Improved Triple Ejector Rack (ITER) program. The Digital ITER develops an increased capability to the existing BRU-42 Improved Triple Ejector Rack for the AV-8B, which adds a multiple carriage capability for Smart Weapons. Project 3190 - is the Multi-Purpose Bomb Rack (MPBR). The MPBR was to replace the BRU-41 / 42 / 33 / 55 for the F/A-18E/F platform and provide for the carriage and release of both tactical and training stores on one common rack. This project has been terminated. The last programatic event will be the Systems Requirement Review. A stop work has been issued and contract termination cost determinations are under way.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	133.611	123.012	118.817	-	118.817
Current President's Budget	90.987	100.415	89.157	-	89.157
Total Adjustments	-42.624	-22.597	-29.660	-	-29.660
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-22.589			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.500	-			
• SBIR/STTR Transfer	-1.887	-			
• Program Adjustments	-	-	-29.728	-	-29.728
• Rate/Misc Adjustments	-	-	0.068	-	0.068
• Congressional Recision Adjustments	-10.000	-	-	-	-
• Congressional General Reductions Adjustments	-0.516	-	-	-	-
• Congressional Directed Reductions Adjustments	-32.721	-	-	-	-

Change Summary Explanation

Schedule:

Project 0601: Schedule for Carrier/Amphibious Assault Ship Crash Crane added (FY13 New Start). Hydraulic Test Stand Milestone B moved from 1st Quarter 2011 to 1st Quarter 2012.

Project 0852: No changes to schedule.

Project 3190: The Navy canceled the Multi-Purpose Bomb Rack program in April 2011. Budget exhibits reflect cancellation.

Technical:

Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0601: *Acft Handling & Service Equip*	1.010	1.817	3.221	-	3.221	3.180	3.234	3.249	3.312	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Common Ground Equipment is a Naval Aviation project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget are briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

New Programs are Aircraft Spotting Dolly (ASD) in FY12 and Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) in FY13. ASD is an R&D program to develop next generation ASD. New ASD requires low profile and alternative power to allow safe spotting of all aircraft aboard carrier/amphibious class ships. CV/AACC are required to remove damaged aircraft from the flight line. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment.

PEMA funding supports the evaluation, testing and integration to develop Portable Electronic Maintenance Aids (PEMA) Commercial Off the Shelf solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistics Command/Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for in PE 0205633N project 0601.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Shipboard Firefighting Vehicle (SFV)	1.010	-	-	-	-
Articles:	1				
Description: The SFV program objective is to provide a safe reliable and maintainable way to support air capable ships with flight deck fire suppression during flight operations. The acquisition approach is to develop, acquire, validate, deploy and support production utilizing the lessons learned from the current firefighting vehicle and new emerging technology. This will enable integration of this capability into a new firefighting vehicle, which will be fully capable to support the current and future flight deck fire suppression missions.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Contract with Entwistle initiated for prototype kits. Received delivery in June 2011.					
Title: Aircraft Spotting Dolly (ASD) ***Articles:*** ***Description:*** There are no commercially available towing vehicles that could even be modified to replace the capabilities of the present SD-2. An R & D effort will be required to design its replacement. Advances in batteries and alternating current motor drive systems in the past decade have made it feasible to design an electrically powered vehicle for the CV, CVN, and L-Class hanger deck spotting missions. Such a vehicle will be inherently more reliable, reduce maintenance, and eliminate the fumes and noise generated by a diesel engine. An electrically driven vehicle will provide much greater motion control for slow speeds to aid in the engagement to the aircraft nose gear. Proximity sensors will be incorporated to automatically stop the spotting dolly prior to accidental impact with the aircraft, other support equipment or bulkheads, increasing the safety of the spotting operations. The legacy ASD is close to thirty years old and experiencing parts obsolescence issues and general efficiency degradation. ***FY 2012 Plans:*** Initiate prototype development of ASD. ***FY 2013 Base Plans:*** Procure prototype of ASD.	-	0.957 1	2.009 1	-	2.009 1
Title: Hydraulic Test Stand (HTS) ***Articles:*** ***Description:*** The HTS Program is to provide a single test stand to replace all of the existing hydraulic test units; Hydraulic Components Test Stand, HCT-10, and Pump & Motor test stand. This will simplify supply support, reduce the stock system footprint, reduce training requirements, introduce new technology, consolidate space requirements in the hydraulic shops and eliminate the part obsolescence issues that are now beginning to emerge and grow. The requirements that cannot be met by commercial off the shelf commercial off the shelf items are Shock, Vibration, Electromagnetic Interference, Military Van compatible, and hardened electrical components. These areas will all require R & D. ***FY 2012 Plans:***	-	0.388 1	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Initiate prototype development contractor/government testing of HTS.					
Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) ***Articles:*** ***Description:*** CV/AACC are required to remove damaged aircraft from the flight line. In 2004, a solicitation for a commerical off the shelf replacement for the existing shipboard crash crane was issued. Two bids were received, and after a complete evaluation with many rounds of discussions with the companies bidding, both proposals were found to be technically inadequate and the procurement effort was discontinued. As a result, the crash cranes have continued operation unchanged. Designed in the late 1980's, major systems are beginning to experience the obsolescence of spare parts and are in need of updating. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment. Systems updates would include the engine/generator and electrical updates to the motor drive/control system. An exploration of power sources other than diesel engines would be considered and a corrosion resistant boom. ***FY 2013 Base Plans:*** Initiate prototype development of CV/AACC.	-	-	0.714 0	-	0.714 0
Title: Portable Electronic Maintenance Aid (PEMA) ***Articles:*** ***Description:*** PEMA funding supports the evaluation, testing and integration to develop PEMA Commercial Off-the-Shelf (COTS) solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistic Command Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems. ***FY 2012 Plans:*** Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of Type/Model/Series (T/M/S) peculiar software/hardware requirements and network connectivity compliance across the Global Information Grid (GIG) prior to deployment to the fleet by a yearly release cycle. ***FY 2013 Base Plans:***	-	0.472 0	0.498 0	-	0.498 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of T/M/S peculiar software/ hardware requirements and network connectivity compliance across the GIG prior to deployment to the fleet by a yearly release cycle.					
Accomplishments/Planned Programs Subtotals	1.010	1.817	3.221	-	3.221

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN/0705: *Ground Support Equipment*	141.335	132.473	124.635	2.380	127.015	128.927	136.629	131.458	135.944	Continuing	Continuing
• OPN/4264: *Portable Electronic Maintenance Aids*	10.554	7.875	7.954	0.000	7.954	5.544	4.270	4.349	4.433	Continuing	Continuing

D. Acquisition Strategy

Common Ground Equipment: This is a non ACAT program. Field activities propose tentative projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group process selects projects to transition to procurement.

Portable Electronic Maintenance Aids: The management approach includes the Program Management Office residing at NAVAIR with Milestone Decision Authority delegated to the NAVAIR CIO. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded Indefinite Delivery/Indefinite Quantity contracts.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Dev-SFV	SS/CPFF	ENTWISTLE:HUDSON, MA	2.530	-		-		-		-	0.000	2.530	2.530
Systems Engineering-SFV	WR	NAWCAD:LAKEHURST, NJ	1.224	-		-		-		-	0.000	1.224	
Systems Engineering-HTS	WR	NAWCAD:LAKEHURST, NJ	-	0.299	Nov 2011	-		-		-	0.000	0.299	
Primary Hardware Dev--ASD	C/FFP	TBD:TBD	-	0.516	Mar 2012	1.509	Mar 2013	-		1.509	Continuing	Continuing	Continuing
Systems Engineering-ASD	WR	NAWCAD:LAKEHURST, NJ	-	0.441	Nov 2011	0.500	Nov 2012	-		0.500	Continuing	Continuing	Continuing
Systems Engineering-CV/ AACC	WR	NAWCAD:LAKEHURST, NJ	-	-		0.714	Nov 2012	-		0.714	Continuing	Continuing	Continuing
Prior Year Prod Dev	Various	Various:Various	13.763	-		-		-		-	0.000	13.763	
		Subtotal	17.517	1.256		2.723		-		2.723			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support	Various	Various:Various	8.857	-		-		-		-	0.000	8.857	
		Subtotal	8.857	-		-		-		-	0.000	8.857	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation - HTS	WR	NAWCAD:LAKEHURST, NJ	-	0.089	Dec 2011	-		-		-	0.000	0.089	
Operational T & E - PEMA	WR	NAWCAD:PAX RIVER, MD	-	0.472	Nov 2011	0.498	Nov 2012	-		0.498	Continuing	Continuing	Continuing
Prior Year T & E	Various	Various:Various	0.500	-		-		-		-	0.000	0.500	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.500	0.561		0.498		-		0.498			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.874	1.817		3.221		-		3.221			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0205633N: *Aviation Improvements*	**PROJECT** 0601: *Acft Handling & Service Equip*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0205633N: *Aviation Improvements*	**PROJECT** 0601: *Acft Handling & Service Equip*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SHIPBOARD FIREFIGHTING VEHICLE (SFV)				
Acquisition Milestones: SFV-FULL RATE PRODUCTION (FRP) DECISION	4	2011	4	2011
Systems Development: Hardware Development: SFV-ECP DEVELOPMENT PROTOTYPE PHASE	1	2011	2	2011
Systems Development: Hardware Development: SFV-ECP COMPLETE	4	2011	4	2011
Test & Evaluation: SFV-CONTRACTOR AND GOVT RUN TESTING	1	2011	4	2011
AIRCRAFT SPOTTING DOLLY (ASD)				
Acquisition Milestones: Milestones: ASD-MILESTONE B	1	2012	1	2012
Acquisition Milestones: Milestones: ASD-MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: ASD-PROTOTYPE PHASE	1	2012	4	2014
Test & Evaluation: ASD-CONTRACTOR AND GOVT RUN TESTING	1	2013	3	2015
HYDRAULIC TEST STAND (HTS)				
Acquisition Milestones: Milestones: HTS-MILESTONE B	1	2012	1	2012
Acquisition Milestones: Milestones: HTS-MILESTONE C	4	2013	4	2013
Systems Development: Hardware Development: HTS-PROTOTYPE PHASE	1	2012	2	2013
Test & Evaluation: HTS-CONTRACTOR AND GOVT RUN TESTING	4	2012	4	2013
Production Milestones: HTS-START LOW RATE INITIAL PRODUCTION (LRIP) 1 - APN	2	2014	2	2014
Production Milestones: HTS-FULL RATE PRODUCTION (FRP) START	1	2015	1	2015
CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)				
Acquisition Milestones: Milestones: MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: CV/AACC-ECP DEVELOPMENT	1	2013	1	2015
Test & Evaluation: CV/AACC-CONTRACTOR AND GOVT RUN TESTING	1	2014	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0205633N: *Aviation Improvements*	**PROJECT** 0601: *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)				
Systems Development: Contract Award: Contract Award 3	1	2012	1	2012
Systems Development: Contract Award: Contract Award 4	1	2013	1	2013
Systems Development: Contract Award: Contract Award 5	1	2014	1	2014
Systems Development: Contract Award: Contract Award 6	1	2015	1	2015
Systems Development: Contract Award: Contract Award 7	1	2016	1	2016
Systems Development: Contract Award: Contract Award 8	1	2017	1	2017
Systems Development: Requirements: Requirements Study Complete 3	2	2012	2	2012
Systems Development: Requirements: Requirements Study Complete 4	2	2013	2	2013
Systems Development: Requirements: Requirements Study Complete 5	2	2014	2	2014
Systems Development: Requirements: Requirements Study Complete 6	2	2015	2	2015
Systems Development: Requirements: Requirements Study Complete 7	2	2016	2	2016
Systems Development: Requirements: Requirements Study Complete 8	2	2017	2	2017
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 3	3	2012	3	2012
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 4	3	2013	3	2013
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 5	3	2014	3	2014
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 6	3	2015	3	2015
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 7	3	2016	3	2016
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 8	3	2017	3	2017
Systems Development: Image Development By T/M/S: Image Development By T/M/S 3	3	2012	3	2012

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Image Development By T/M/S: Image Development By T/M/S 4	3	2013	3	2013
Systems Development: Image Development By T/M/S: Image Development By T/M/S 5	3	2014	3	2014
Systems Development: Image Development By T/M/S: Image Development By T/M/S 6	3	2015	3	2015
Systems Development: Image Development By T/M/S: Image Development By T/M/S 7	3	2016	3	2016
Systems Development: Image Development By T/M/S: Image Development By T/M/S 8	3	2017	3	2017
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 3	4	2012	4	2012
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 4	4	2013	4	2013
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 5	4	2014	4	2014
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 6	4	2015	4	2015
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 7	4	2016	4	2016
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 8	4	2017	4	2017
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 3	4	2012	4	2012
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 4	4	2013	4	2013
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 5	4	2014	4	2014
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 6	4	2015	4	2015
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 7	4	2016	4	2016
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 8	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0601: *Acft Handling & Service Equip*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: Production Deliveries: Production Delivery, Release 3	4	2012	4	2012
Deliveries: Production Deliveries: Production Delivery, Release 4	4	2013	4	2013
Deliveries: Production Deliveries: Production Delivery, Release 5	4	2014	4	2014
Deliveries: Production Deliveries: Production Delivery, Release 6	4	2015	4	2015
Deliveries: Production Deliveries: Production Delivery, Release 7	4	2016	4	2016
Deliveries: Production Deliveries: Production Delivery, Release 8	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0852: *Consolidated Auto Support System*	31.773	28.493	8.325	-	8.325	6.510	6.641	6.748	6.867	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The electronic Consolidated Automated Support System (eCASS) project is the system design and development of the latest generation of the US Navy's CASS family of automatic test systems. The legacy CASS system was designed and developed in the 1980's and commenced fielding in 1992. As such, it is reaching the end of its useful life due to obsolescence issues. eCASS is the replacement system for legacy CASS systems, which provides Naval aircraft avionics component maintenance and repair support at Intermediate and Depot maintenance facilities both shore-based and afloat. As a CASS replacement program, the eCASS program objectives remain the same as that of CASS. Specifically: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics aircraft weapon systems.

The Test Technology Development project involves analysis, application, maturation, integration and testing of emerging electronic, mechanical and optical test technologies for potential military utility in support of Naval avionics testing and repair. Specific technologies being developed include synthetic instruments, new Advanced Targeting Forward Looking Infrared electro-optics capabilities, multi-analog test capability to enable functional testing, and modernization elements for the CASS family of automatic test systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: eCASS Development	30.954	27.668	7.925	-	7.925
Articles:	0	6	6		6
Description: Develop, integrate and test an Automatic Test System (ATS) to replace legacy CASS systems. The new ATS will be compatible with and capable of hosting the hundreds of existing Test Programs that are currently utilized on legacy CASS at the Intermediate and Depot levels of maintenance, as well as any emerging Test Programs that may require greater test capability than provided by legacy CASS.					
FY 2011 Accomplishments: Conduct eCASS system Preliminary Design Review and perform Advance Development Model integration.					
FY 2012 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Conduct eCASS system Critical Design Review, procure initial Engineering Development Models, initiate Test Program Set integration, and conduct Test Readiness Review (TRR). Commence Developmental Test DT-B1 and DT-B2 test events. ***FY 2013 Base Plans:*** Continue Test Program Set integration. Conduct Production Readiness Review. Conduct Milestone C Review. Conduct Test Readiness Review. Commence DT-C1 test event.					
Title: Test Technology Development ***Articles:*** ***Description:*** Develops, integrates, and evolves enhanced test capabilities and technologies for insertion into the CASS family of test systems. As weapon system electronics evolve, new test capabilities are required to support advanced systems. Existing test capabilities must be extended in range, accuracy, time and frequency domains in order to sustain the required test accuracy ratios for weapon systems support (the automatic test system must be four times as accurate as the asset being tested). ***FY 2011 Accomplishments:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2012 Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2013 Base Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems.	0.819 1	0.825 1	0.400 1	-	0.400 1
Accomplishments/Planned Programs Subtotals	31.773	28.493	8.325	-	8.325

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN/0705: *Common Ground Equip APN-7*	35.007	75.614	93.186	0.000	93.186	93.870	95.562	96.533	98.438	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

D. Acquisition Strategy

Formal test technology reviews with industry are conducted annually (cooperative Joint Services initiative) to define maturity of needed technologies. Further studies are conducted as needed. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev eCASS	C/CPIF	LOCKHEED MARTIN:ORLANDO, FL	43.062	23.426	Dec 2011	5.700	Dec 2012	-		5.700	Continuing	Continuing	Continuing
Primary Hdw Dev Test Technology	C/CPFF	Various:Various	0.882	0.450	Dec 2011	0.300	Dec 2012	-		0.300	Continuing	Continuing	Continuing
Prior Year Prod Dev	Various	Various:Various	28.397	-		-		-		-	0.000	28.397	
		Subtotal	72.341	23.876		6.000		-		6.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Support	WR	Various:Various	2.451	2.000	Jan 2012	0.956	Jan 2013	-		0.956	Continuing	Continuing	Continuing
eCASS Support	WR	NAWC AD:Lakehurst, NJ	4.400	1.992	Jan 2012	1.052	Jan 2013	-		1.052	Continuing	Continuing	Continuing
Test Technology Support	WR	Various:Various	0.450	0.275	Jan 2012	-		-		-	Continuing	Continuing	Continuing
Prior Year Support	Various	Various:Various	12.403	-		-		-		-	0.000	12.403	
		Subtotal	19.704	4.267		2.008		-		2.008			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Travel	WR	Various:Various	0.447	0.250	May 2012	0.217	May 2013	-		0.217	Continuing	Continuing	Continuing
Test Tech Travel	WR	Various:Various	0.200	0.100	May 2012	0.100	May 2013	-		0.100	Continuing	Continuing	Continuing
Prior Year Mgmt	Various	Various:Various	1.669	-		-		-		-	0.000	1.669	
		Subtotal	2.316	0.350		0.317		-		0.317			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	94.361	28.493		8.325		-		8.325			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 0852: *Consolidated Auto Support System*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0205633N: *Aviation Improvements*	**PROJECT** 0852: *Consolidated Auto Support System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
electronic Consolidated Automated Support System (eCASS)				
Acquisition Milestones: Milestones: Milestone C	2	2013	2	2013
Acquisition Milestones: Milestones: Full Rate Production Decision Review	2	2015	2	2015
Systems Development: Hardware and Software Development: eCASS System Development	1	2011	3	2015
Test & Evaluation: Development Testing: eCASS DT-B1 & B2 Testing	4	2012	1	2013
Test & Evaluation: Development Testing: eCASS DT-C1 Testing	4	2013	1	2014
Test & Evaluation: Development Testing: eCASS DT-C2 Testing	4	2014	1	2015
Production Milestones: eCASS LRIP 1-APN	2	2013	2	2013
Production Milestones: eCASS LRIP 2-APN	2	2014	2	2014

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1041: *Acft Equip Repl/Maint Prog*	4.172	3.020	3.238	-	3.238	3.281	3.351	3.402	3.467	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program which provides Research, Development, Test & Evaluation engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through reliability, maintainability, and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high-priority flight testing which is not associated with any acquisition or development program under the Flight Test General task.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Avionics and Wiring	0.983	0.860	0.713	-	0.713
Articles:	0	0	0		0
FY 2011 Accomplishments: Qualified materials or pieces of equipment and the procedures/process required for their implementation. Pursued next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Addressed avionics-related reliability issues impacting multiple aircraft platforms.					
FY 2012 Plans: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Test and evaluate off-board diagnostic equipment for generator diagnostics/prognostics. Refine algorithms for multiple battery models, including lithium chemistries. Continue testing in aircraft simulated environment. Pursue next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address avionics-related reliability issues impacting multiple aircraft platforms.					
FY 2013 Base Plans: Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments, including off-board equipment					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
for generator and battery diagnostics and prognostics. Continue to enhance algorithms for multiple battery models covering additional legacy platforms. Pursue next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms.					
Title: Air Vehicle	1.561	1.350	1.645	-	1.645
Articles:	0	0	0		0
FY 2011 Accomplishments: Qualified materials or pieces of equipment and the procedures/process required for their implementation. Developed new methods of structural repair. Evaluated new methods of corrosion prevention control. Evaluated non-solvent plasma method to remove hydraulic contamination. Pursued subsystem improvements by increasing component reliability. Finalized titanium tubing crack detection methodology and tooling. Explored additional areas where tooling and methodology to detect cracks using 3D imagery can benefit Naval aviation. Qualified and implemented advanced non-chrome primers with corrosion protection properties.					
FY 2012 Plans: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Develop new methods of structural repair with focus on lightweight, high-cost, and low observability platforms. Expand focus of human factors and advanced materials/coatings in corrosion prevention control. Expand use of protective coatings on aircraft components to resist abrasion, wear, and corrosion, while lowering maintenance hours and cost.					
FY 2013 Base Plans: Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments. Develop expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Continue expansion of human factors focus and advanced materials and coatings in corrosion prevention control. Based on advancement in material sciences, test and qualify new materials or equipment technologies and the procedures/process required for their implementation to improve operational reliability, while containing cost growth.					
Title: Systems Engineering Revitalization	0.926	0.810	0.880	-	0.880
Articles:	0	0	0		0
FY 2011 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continued validation of leading indicators for effectiveness. Continued development of improved four-phase system and Systems Engineering Technical Review (SETR) process. Using communications strategy developed in previous year and web-based tool, delivered usable validated products to engineering and program teams. ***FY 2012 Plans:*** Complete initial version of the SETR web-based checklist tool. Identify web-tool critical limitations and implement changes and improvements within the tool. Investigate systems engineering processes and tools across Naval Air Systems Command domains inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures. ***FY 2013 Base Plans:*** Perform continuous and systematic update of the Systems Engineering Technical Review web-based checklist tool. Continue to identify web-tool critical limitations and implement changes and improvements within the tool to increase the effectiveness and efficiency of the tool. Continue to investigate systems engineering processes and tools across Naval Air Systems Command domains, inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures and the goals of improving operational reliability while containing life-cycle costs.					
Title: NAE Corrosion ***Articles:*** ***FY 2011 Accomplishments:*** Continued to design, test, and implement CSIC aluminum gearboxes as alternatives to magnesium alloy gearboxes. Demonstrated and validated conducting paint and sealants with less noble galvanic potential and which provide acceptable electrical performance with much lower propensity to cause corrosion of airframe and components. Investigated products such as advanced performance topcoats designed to decrease cost of re-painting aircraft by extending service life of paint.	0.702 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	4.172	3.020	3.238	-	3.238

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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D. Acquisition Strategy

This is a non-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

The Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) program will, at a minimum, fund 8 to 15 projects a year that investigate and evaluate reliability and maintainability improvements to in-service, out-of-production aircraft equipment. AERMIP projects will have a greater than 75% success rate of insertion into Department of the Navy warfighting systems or support infrastructure.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng - Avionics/Wiring	WR	NAWCAD:Patuxent River, MD	4.590	0.512	Nov 2011	0.293	Oct 2012	-		0.293	Continuing	Continuing	Continuing
Sys Eng - Avionics/Wiring	C/FFP	Various:Various	0.505	-		0.050	Feb 2013	-		0.050	0.000	0.555	0.555
Sys Eng - Avionics/Wiring	C/FFP	GEM Power:Redlands, CA	-	0.108	Mar 2012	0.100	Mar 2013	-		0.100	0.000	0.208	0.208
Sys Eng - Avionics/Wiring	C/FFP	PCKA:West Lafayette, IN	-	0.146	Mar 2012	0.100	Mar 2013	-		0.100	0.000	0.246	0.246
Sys Eng - Avionics/Wiring	WR	FRC:Cherry Point, NC	-	-		0.100	Nov 2012	-		0.100	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	NAWCAD:Patuxent River, MD	6.119	0.795	Nov 2011	0.652	Oct 2012	-		0.652	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:San Diego, CA	0.508	0.109	Dec 2011	0.130	Nov 2012	-		0.130	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Cherry Point, NC	0.428	0.108	Dec 2011	0.224	Nov 2012	-		0.224	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Jacksonville, FL	0.460	0.103	Dec 2011	0.275	Nov 2012	-		0.275	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	C/FFP	Various:Various	0.712	0.089	Mar 2012	0.211	Jan 2013	-		0.211	0.000	1.012	1.013
Sys Eng - SE Revitalization	WR	NAWCAD:Patuxent River, MD	0.792	0.008	Dec 2011	0.003	Oct 2012	-		0.003	Continuing	Continuing	Continuing
Sys Eng - SE Revitalization	C/FFP	L-3 Communications:Marlton, NJ	2.059	0.802	Mar 2012	0.877	Jan 2013	-		0.877	0.000	3.738	3.738
Sys Eng - NAE Corrosion	WR	NAWCAD:Patuxent River, MD	0.608	-		-		-		-	0.000	0.608	
Sys Eng - NAE Corrosion	WR	FRC:San Diego, CA	0.100	-		-		-		-	0.000	0.100	
Sys Eng - NAE Corrosion	WR	FRC:Cherry Point, NC	0.125	-		-		-		-	0.000	0.125	
Sys Eng - NAE Corrosion	WR	FRC:Jacksonville, FL	0.130	-		-		-		-	0.000	0.130	
Prior Year Prod Dev	Various	Various:Various	1.504	-		-		-		-	0.000	1.504	1.504
		Subtotal	18.640	2.780		3.015		-		3.015			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analyses - NAE Corrosion	WR	NAWCAD:Patuxent River, MD	0.116	-		-		-		-	0.000	0.116	
Prior Year Support	Various	Various:Various	12.364	-		-		-		-	0.000	12.364	12.364
		Subtotal	12.480	-		-		-		-	0.000	12.480	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD:Patuxent River, MD	1.183	0.240	Nov 2011	0.223	Oct 2012	-		0.223	Continuing	Continuing	Continuing
Travel	WR	NAWCAD:Patuxent River, MD	0.094	-		-		-		-	0.000	0.094	
Prior Year Mgmt	Various	Various:Various	1.877	-		-		-		-	0.000	1.877	1.877
		Subtotal	3.154	0.240		0.223		-		0.223			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	34.274	3.020		3.238		-		3.238			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1041: *Acft Equip Repl/Maint Prog*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0205633N: *Aviation Improvements*	**PROJECT** 1041: *Acft Equip Repl/Maint Prog*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acft Equip Repl/Maint Prog				
Avionics & Wiring: High-Speed Bus Switching	1	2011	4	2011
Avionics & Wiring: Aircraft Battery Diagnostic & Prognostic System	1	2011	4	2013
Avionics & Wiring: Generator System Diagnostics & Health	1	2011	4	2013
Avionics & Wiring: Investigate High Value Return on Investment	1	2011	4	2017
Avionics & Wiring: Wiring Diagnostics and Prognostics	1	2011	2	2014
Avionics & Wiring: Avionics Reliability Enhancements	1	2011	1	2011
Air Vehicle: Improved Corrosion Preventative Compounds	1	2011	4	2015
Air Vehicle: Corrosion Prevention and Control	1	2011	4	2014
Air Vehicle: Advanced Methods of Structural Repair	1	2011	4	2014
Air Vehicle: Subsystem Improvement Initiatives	1	2011	4	2014
Air Vehicle: Sand & Erosion Resistance of APU Impeller	1	2011	4	2011
Air Vehicle: Non-Solvent Plasma	1	2011	4	2012
Air Vehicle: Titanium Tubing for Hydraulic Systems	1	2011	4	2011
Air Vehicle: Investigate High Value Return on Investment	1	2011	4	2017
Air Vehicle: Ambient Temperature Bonding	1	2011	4	2012
SE Revitalization: Improved Technical Excellence of Acquisition Programs	1	2011	4	2017
NAE Corrosion Improvement: Flight Line Canopy Shelters	1	2011	4	2011
NAE Corrosion Improvement: Tape & Adhesive Remover	1	2011	4	2011
NAE Corrosion Improvement: Aluminum Gearboxes	1	2011	4	2011
NAE Corrosion Improvement: Conducting Paints & Sealants	1	2011	4	2011
NAE Corrosion Improvement: Investigate High Value Return on Investment	1	2011	4	2011

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1355: *Propulsion and Power Component Improvement Program*	50.161	62.379	61.296	-	61.296	70.809	91.074	95.005	96.746	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy aircraft propulsion systems. The highest priority issues CIP addresses concern safety-of-flight deficiencies which account for approximately 80% of CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness and Reliability and Maintainability, and reduces platform Life Cycle Cost. Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term plans. CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion system as an integral part of Reliability Centered Maintenance initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during OPERATIONS DESERT SHIELD/DESERT STORM, ENDURING FREEDOM, and IRAQI FREEDOM due to sand erosion. In addition, new problems arise through actual fleet deployment and usage of the aircraft. System Development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those that the aircraft was designed to perform. Therefore, it has been found that CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. CIP addresses engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, aircraft wiring, and fuel and lubricant systems. CIP efforts continue over the system's life, gradually decreasing to a minimum level sufficient to maintain the reliability, and decrease the operating costs, of older inventory. CIP is a highly leveraged and cooperative tri-service program with Foreign Military Sales participation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: P3, E2, C2, C130 (T56)	4.873	5.990	8.403	-	8.403
Articles:	0	0	0		0
FY 2011 Accomplishments:					
Conducted analytical condition inspections of high time hardware in order to identify new reliability degraders. Qualified redesigned combustor liner. Maintained life management analysis to ensure safe operation of high time					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
parts. Continued to investigate all service revealed deficiencies. Engineered change for new compressor blade coating. Redesigned C-2 engine reliability improvements. ***FY 2012 Plans:*** Redesign the Aft Cone-Adaptor significant engine removal contributor. Begin design and fabrication of a replacement to the current electronic control system which will no longer be repairable due to obsolescence. Complete further testing on in-service hardware to extend the T1 blade re-use limit. Continue the Analytical Condition Inspections program. Qualify redesigned combustor liner. Continue to investigate all service revealed deficiencies. Redesigns for C-2 engine reliability improvements, Scavenge Oil System Improvements. Initiate Gearbox improvements. Improve turbine vane durability for improve engine reliability. ***FY 2013 Base Plans:*** Complete redesign the Aft Cone-Adaptor significant engine removal contributor. Continue design and fabrication of a replacement to the current electronic control system which will no longer be repairable due to obsolescence. Complete the Analytical Condition Inspections program. Complete qualification of redesigned combustor liner. Continue to investigate all service revealed deficiencies. Complete Gearbox improvements. Complete turbine vane durability project.					
Title: E2/C2/C130/P3 (Props)	1.451	1.450	1.500	-	1.500
Articles:	0	0	0		0
FY 2011 Accomplishments: Completed NP2000 rear cone analysis and redesign. Tested and qualified E-2 propeller active balance system. Continued NP2000 analytical condition inspection to identify new reliability degraders. Initiated redesign of NP2000 rear cone. ***FY 2012 Plans:*** Continue research and testing of potential NP2000 Blade Erosion Coatings. Complete P-3/C-130 propeller taper bore corrosion testing and implement design change as required. Continue build of NP2000 Control System Working Model. Continue to investigate all service revealed deficiencies. ***FY 2013 Base Plans:*** Complete research and testing of potential NP2000 Blade Erosion Coatings. Complete build of NP2000 Control System Working Model. Continue to investigate all service revealed deficiencies.					
Title: EA-6B (J52)	2.639	1.620	2.423	-	2.423
Articles:	0	0	0		0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Started incorporation of the new 4.5 bearing, new 4.5 bearing inner race nut torque value and torque tooling. Continued FY2010 plan. Maintenance awareness presented at Operational & Intermediate levels. Developed a Thermal Barrier Coating for the combustion chamber interior surfaces. Developed a repair for the wear found in the inlet case vane driver boss replacement. ***FY 2012 Plans:*** Complete incorporation of the new 4.5 bearing, new 4.5 bearing inner race nut torque value and torque tooling. Maintenance awareness will be presented at Operational & Intermediate levels. Begin development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop a repair for the wear found in the inlet case vane driver boss replacement. ***FY 2013 Base Plans:*** Complete incorporation of torque value and torque tooling. Complete development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop updated repair and inspection criteria for fielded components.					
Title: SH-60B/F, HH-60H, MH-60R/S (T700)	4.632	2.640	2.571	-	2.571
Articles:	0	0	0		0
FY 2011 Accomplishments: Completed T700 hot restart stall mitigation through design changes. Performed redesign work to reduce impact of cost and readiness drivers for the engine and drive system. ***FY 2012 Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Continue a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures, and measure effectiveness. Continue the redesign of the Main Transmission Gearbox from Magnesium to Aluminum. ***FY 2013 Base Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Complete a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures,					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and measure effectiveness. Complete the redesign of the Main Transmission Gearbox from Magnesium to Aluminum.					
Title: H-1 (T400/T700)	0.352	1.084	1.792	-	1.792
Articles:	0	0	0		0
FY 2011 Accomplishments: Provided Build Process Efficiencies for increased reliability and cost reduction. Addressed T400 parts obsolescence.					
FY 2012 Plans: Begin development of T700-401 engine harness testor. Complete LiPoly battery for H-1 upgrades. Continue support of common T700 engine projects.					
FY 2013 Base Plans: Complete development of T700-401 engine harness testor. Continue support of common T700 engine projects.					
Title: AV-8B (F402)	6.663	4.200	5.241	-	5.241
Articles:	0	0	0		0
FY 2011 Accomplishments: Engineering Change Proposals (ECPs) submitted for Engine Variable Inlet Control System (EVICS) torque motor roll cage redesign. ECPs submitted for Low Pressure Compressor 1, Low Pressure Compressor 2, Low Pressure Compressor 3 and blade airfoil Low Plasticity Burnishing. Detailed design effort to extend critical rotating part lives.					
FY 2012 Plans: ECPs for low plasticity burnishing of low pressure compressor stage one, two and three blades, fuel leak redesign of EVICS, Hydro Mechanical Unit (HMU) permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails.					
FY 2013 Base Plans: Complete effort for low plasticity burnishing of low pressure compressor stage one, two and three blades. Complete fuel leak redesign of EVICS, HMU permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails.					
Title: H-53/H-46/H-3 (T58/T64)	5.640	6.090	9.427	-	9.427

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Articles:	0	0	0		0
FY 2011 Accomplishments: H-46/H-3 (T58) Continued qualification of Next Generation Coating for 1st stage compressor blades. H-53 (T64) Mid sump improvements and modernized torque sensor effort continued. Fuel control reliability improvement program initiated. Life management analysis and Reliability Centered Maintenance efforts continued.					
FY 2012 Plans: H-46/H-3 (T58) Complete qualification of Next Generation Coating for 1st stage compressor blades. H-53 (T64) Complete mid sump improvements and modernized torque sensor effort continue. Continue Fuel control reliability improvement program. Continue life management analysis and Reliability Centered Maintenance efforts.					
FY 2013 Base Plans: H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components. H-53 (T64) Complete modernized torque sensor effort. Complete Fuel control reliability improvement program. Continue life management program, Prognostic Dianogstic based management analysis and Reliability Centered Maintenance efforts.					
Title: F-18 C/D/E/F (F414/F404)	10.629	18.020	16.589	-	16.589
Articles:	0	0	0		0
FY 2011 Accomplishments: Oil system improved to address pressure cautions. Component analyzed for service life extension. Full Authority Digital Electronic Control software modified for reduced removals for engine stalls.					
FY 2012 Plans: Flameholder attachment redesign. Full Authority Digital Electronic Control obsolescence redesign. Turbine disk dovetail edge of contact improvements. Near real time damage assessment. Field performance management.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
High Pressure Compressor throat wear limit expansion. Oil pressure cautions. Main Fuel Control improvements to reduce mission aborts. ***FY 2013 Base Plans:*** Complete flameholder attachment redesign. Complete Full Authority Digital Electronic Control obsolescence redesign. Complete turbine disk dovetail edge of contact improvements. Complete Main Fuel Control improvements to reduce mission aborts. Begin mission analysis updates. Continue to develop lifting model. Continue life limited part life extension. Continue to develop inspection and repair criteria.					
Title: T-45 (F405) ***Articles:*** ***FY 2011 Accomplishments:*** Addressed top safety issues reported from fleet. Analyzed and redesigned components based on service revealed deficiencies. ***FY 2012 Plans:*** Continue to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies. ***FY 2013 Base Plans:*** Complete to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies.	2.198 0	2.000 0	4.714 0	-	4.714 0
Title: V-22 Propulsion ***Articles:*** ***FY 2012 Plans:*** Initiate Drive system corrosion improvement project, drive system lead the fleet, Full Authority Digital Engine Control Troubleshooting, constant frequency generator to Accessory gearbox casting change. Continue Infrared suppressor removal study, software generation, upper Nacelle system and compressor coating Trade Studies. Complete engine and system management plans.	-	6.600 0	-	-	-
Title: Multi-Platform Product Support Teams ***Articles:*** ***FY 2011 Accomplishments:***	11.084 0	12.685 0	7.849 0	-	7.849 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Projects provided common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing. ***FY 2012 Plans:*** Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing. ***FY 2013 Base Plans:*** Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.					
Title: Adversary (J85) (F100) ***Articles:*** ***FY 2013 Base Plans:*** Continue contribution to common Component Improvement Program tasks with United States Air Force for F100 and J85 Engine. J85 unique tasks include rotating part life update and fuel control redesign.	-	-	0.787 0	-	0.787 0
Accomplishments/Planned Programs Subtotals	50.161	62.379	61.296	-	61.296

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

D. Acquisition Strategy

This is a NON-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

The Component Improvement Program (CIP) will support engineering design and development efforts for 100% of the safety of flight issues on in-service propulsion & power systems covered under the program. In FY11, this equates to more than 200 individual Engineering Project Descriptions (EPDs). CIP will also address reliability and maintainability deficiencies equating to at least another 150 individual EPDs. Similar projects have increased the aggregate engine reliability across the USN/ USMC fleet, as measured by the mean flight hours between engine removals, by 40% over the past six years.

Program execution will be actively managed on 100% of the projects via contractor earned value data and overall obligation and expenditure rates as reflected in Navy ERP. Data will be analyzed and measured against OSD/FMB benchmarks on a monthly basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng F402 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.916	1.302	Oct 2011	2.096	Oct 2012	-		2.096	Continuing	Continuing	Continuing
Sys Eng F402 Engine Program	SS/CPFF	ROLLS ROYCE:UK	55.856	2.898	Dec 2011	3.145	Jan 2013	-		3.145	0.000	61.899	61.899
Sys Eng T58/T64 Engine Program	SS/CPFF	GE:MASS	74.481	3.532	Dec 2011	5.656	Jan 2013	-		5.656	0.000	83.669	83.669
Sys Eng T58/T64 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.495	2.558	Oct 2011	3.771	Oct 2012	-		3.771	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	SS/CPFF	P&W:FLORIDA	37.968	1.073	Oct 2011	1.454	Jan 2013	-		1.454	0.000	40.495	40.495
Sys Eng J52 Engine Program	WR	NAWCAD:PAX RIVER, MD	11.312	0.547	Oct 2011	0.969	Oct 2012	-		0.969	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	SS/CPFF	ROLLS ROYCE:IN	35.311	4.194	Feb 2012	5.042	Jan 2013	-		5.042	0.000	44.547	44.547
Sys Eng T56 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.360	1.796	Oct 2011	3.361	Oct 2012	-		3.361	Continuing	Continuing	Continuing
Sys Eng F405 Engine Program	SS/CPFF	ROLLS ROYCE:UK	25.813	1.166	Dec 2011	2.828	Jan 2013	-		2.828	0.000	29.807	29.807
Sys Eng F405 Engine Program	WR	NAWCAD:PAX RIVER, MD	2.722	0.834	Oct 2011	1.886	Oct 2012	-		1.886	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	GE:MASS	89.758	12.684	Dec 2011	9.965	Jan 2013	-		9.965	0.000	112.407	112.407
Sys Eng F414/F404 Engine Program	WR	NAWCAD:PAX RIVER, MD	13.968	5.336	Oct 2011	6.648	Oct 2012	-		6.648	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	GE:MASS	24.999	1.849	Jan 2012	1.543	Jan 2013	-		1.543	0.000	28.391	28.391
Sys Eng T700 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.540	0.791	Oct 2011	1.028	Oct 2012	-		1.028	Continuing	Continuing	Continuing
Sys Eng T400 Engine Program	SS/CPFF	P&W:FLORIDA	5.210	0.200	Dec 2011	1.075	Jan 2013	-		1.075	0.000	6.485	6.485
Sys Eng T400	WR	NAWCAD:PAX RIVER, MD	-	0.884	Dec 2011	0.717	Oct 2012	-		0.717	Continuing	Continuing	Continuing
Sys Eng Props Program	SS/CPFF	HAM SUNSTRAND:CON	13.739	1.450	Dec 2011	1.500	Jan 2013	-		1.500	0.000	16.689	16.689

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sys Eng Lab Fld Activity-1.0 or more	WR	NAWCAD:PAX RIVER, MD	185.951	10.965	Oct 2011	7.006	Oct 2012	-		7.006	Continuing	Continuing	Continuing
GFE*	Reqn	DES/DLA:Various	10.913	1.000	Dec 2011	0.200	Jan 2013	-		0.200	Continuing	Continuing	Continuing
Sys Eng V-22 Propulsion Program	SS/FFP	Bell- Boeing:Ft. Worth, TX	3.400	4.500	Jan 2012	-		-		-	0.000	7.900	7.900
Sys Eng V-22 Propulsion Program	WR	NAWCAD:PAX RIVER, MD	1.800	2.100	Nov 2011	-		-		-	0.000	3.900	
Sys Eng Other In-House Spt	Various	Various:Various	19.517	0.300	Oct 2011	0.200	Nov 2012	-		0.200	Continuing	Continuing	Continuing
Adversary (J85) (F100)	WR	NAWCAD:PAX RIVER, MD	-	-		0.787	Jan 2013	-		0.787	0.000	0.787	
Prior Year Prod Dev	Various	Various:Various	53.921	-		-		-		-	0.000	53.921	
		Subtotal	736.950	61.959		60.877		-		60.877			

Remarks

GFE includes expected cost of fuel necessary to support engine development and qualification testing.
This budget submittal realigns JSF CIP funds to Multi-Platform Support and V-22 based on resource sponsor direction and in concert with program schedule adjustment.
Total may be off due to rounding.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various:Various	7.623	0.310	Dec 2011	0.310	Oct 2012	-		0.310	Continuing	Continuing	Continuing
		Subtotal	7.623	0.310		0.310		-		0.310			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	Various	Various:Various	3.279	0.053	Oct 2011	0.053	Oct 2012	-		0.053	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 1355: *Propulsion and Power Component Improvement Program*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	3.279	0.053		0.053		-		0.053			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAWCAD:PAX RIVER, MD	0.602	0.057	Oct 2011	0.056	Oct 2012	-		0.056	Continuing	Continuing	Continuing
Prior Year Mgmt Svcs	Various	Various:Various	1.447	-		-		-		-	0.000	1.447	1.447
		Subtotal	2.049	0.057		0.056		-		0.056			

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	749.901	62.379		61.296		-		61.296			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2269: *EAF Matting*	-	4.705	13.077	-	13.077	12.878	11.098	-	-	0.000	41.758
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for under PE 0205633N project 0601. The EAF program designs, develops, tests and fields components of a heat resistant lightweight airfield surfacing system and resistant that will support the deployment of the Joint Strike Fighter in austere environments worldwide and a sustainment lighting system to replace existing obsolete legacy EAF lighting system. These systems will provide EAF Marine Wing Support Squadrons with the required EAF equipments to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment the Marine Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: EAF Matting	-	4.705	13.077	-	13.077
Articles:		0	0		0
Description: The EAF program designs, develops, tests and fields components of a heat resistant lightweight airfield surfacing system that will support the deployment of the Joint Strike Fighter in austere environments worldwide and a sustainment lighting system to replace the existing obsolete legacy EAF lighting system. These systems will provide EAF Marine Wing Support Squadrons with the required EAF equipments to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment the Marine Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats. The EAF program was previously budgeted for in PE 0205633N project 0601. ***FY 2012 Plans:*** Design and development of heat resistant/lightweight matting and sustainment lighting to support preliminary design reviews and critical design reviews. ***FY 2013 Base Plans:*** Continue design and development of heat resistant/lightweight matting and sustainment lighting to support preliminary design reviews and critical design reviews.					
Accomplishments/Planned Programs Subtotals	-	4.705	13.077	-	13.077

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0204161N/4208: *Expeditionary Airfields.*	12.983	55.561	8.678	58.200	66.878	8.821	8.984	9.138	9.297	Continuing	Continuing

D. Acquisition Strategy

Expeditionary Airfields (EAF): The program will use a Full and Open competition contract strategy for the system design and development of the EAF matting and sustainment lighting.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	TBD	TBD:TBD	-	1.505	Apr 2012	7.410	Apr 2013	-		7.410	7.340	16.255	16.255
Systems Engineering	WR	NAWCAD:Lakehurst	-	1.960	Oct 2011	2.156	Oct 2012	-		2.156	7.275	11.391	
		Subtotal	-	3.465		9.566		-		9.566	14.615	27.646	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics	WR	NAWCAD:Lakehurst	-	0.700	Oct 2011	1.000	Oct 2012	-		1.000	1.770	3.470	
Technical/Engr support	WR	NAWCAD:Lakehurst	-	0.540	Oct 2011	2.071	Oct 2012	-		2.071	5.751	8.362	
		Subtotal	-	1.240		3.071		-		3.071	7.521	11.832	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD:Lakehurst	-	-		0.440	Oct 2012	-		0.440	1.840	2.280	
		Subtotal	-	-		0.440		-		0.440	1.840	2.280	

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	4.705		13.077		-		13.077	23.976	41.758	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 2269: *EAF Matting*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0205633N: *Aviation Improvements*	**PROJECT** 2269: *EAF Matting*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2269				
Systems Development: System Design and Development: EAF-SYSTEM DESIGN & DEVELOPMENT (SDD)	3	2012	1	2015
Systems Development: Reviews: EAF PROGRAM DESIGN REVIEW	3	2013	3	2013
Systems Development: Reviews: EAF-CRITICAL DESIGN REVIEW	2	2014	2	2014
Test and Evaluation: Formal Testing: EAF-FORMAL TESTING	2	2014	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 3189: *Digital I-TER*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3189: *Digital I-TER*	-	0.001	-	-	-	-	-	-	-	0.000	0.001
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project develops an increased capability to the existing BRU-42 Improved Triple Ejector Rack (ITER) for the AV-8B, which adds a multiple carriage capability for Smart Weapons such as Joint Direct Attack Munition. Using existing ITERs as Government Furnished Material, the electronics tray will be replaced with a more capable electronics package allowing for smart weapons capability.

FY09 and FY10 funds realigned to PE 0604214N, Project Unit 2634. These funds were realigned to meet the appropriate intent and strategy of upgrading the AV-8B software to ensure the aircraft receives an increased capability while utilizing an upgraded BRU-42 ITER.

FY10 funds realigned within PE 0604214N, Project Unit 3190 to 3189 to cover extended POP and minor redesign to address integration platform software limitations.

There are no funded efforts planned in FY12 for Digital I-TER.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Digital I-TER	-	0.001	-	-	-
Articles:		0			
FY 2012 Plans: There are no efforts planned in FY12 for Digital I-TER.					
Accomplishments/Planned Programs Subtotals	-	0.001	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 3190: *Multi-Purpose Bomb Racks*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3190: *Multi-Purpose Bomb Racks*	3.871	-	-	-	-	-	-	-	-	0.000	3.871
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The Navy canceled the Multi-Purpose Bomb Rack (MPBR) program in April 2011. Budget exhibits reflect cancellation.

A. Mission Description and Budget Item Justification

3190- MPBR: The MPBR was to replace the BRU-41 / 42 / 33 / 55 for the F/A-18E/F platform and provide for the carriage and release of both tactical and training stores on one common rack. In April 2011, the decision to cancel the MPBR Program was made based upon the Navy's holistic analysis of current bomb rack systems and budgetary concerns verus the program's return on investment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: MPBR Dev ***Articles:*** ***Description:*** The MPBR funding started the development of a bomb rack to replace the BRU-41 / 42 / 33 / 55 for the F/A-18E/F. ***FY 2011 Accomplishments:*** Began MPBR prototype development and fabrication.	3.271 0	-	-	-	-
Title: MPBR Testing ***Articles:*** ***Description:*** The MPBR testing will include ground (aircraft and test stand) and flight integration testing. These efforts will begin prior to delivery and will occur throughout the Engineering and Manufacturing Development efforts of this rack. ***FY 2011 Accomplishments:*** Performed MPBR initial test planning for ground rack testing. Began close out of contract efforts.	0.600 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	3.871	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0205633N: *Aviation Improvements*	PROJECT 3190: *Multi-Purpose Bomb Racks*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The Multi-Purpose Bomb Rack program EMD contract was awarded in March 2010. Subsequently, the unsuccessful vendor lodged a protest which placed the contract in a stop work status. The decision to continue with award occurred on 23 September 2010. MPBR was canceled in April 2011 due to higher priorities within the Navy. A stop work was issued on 25 April 2011, with Systems Requirements Review (SRR) being the final technical event and then to begin contract shutdown process.

E. Performance Metrics

FY11: Successfully complete milestones: SRR.